

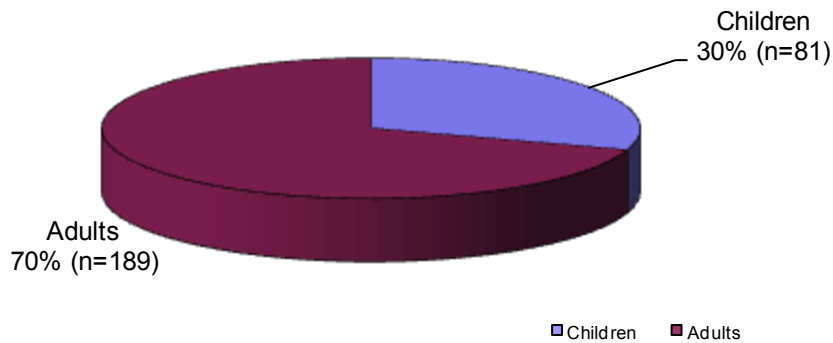
CNI Center for Hearing  
Outcomes Report – 2014

Submitted by  
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Age Distribution - Cochlear Implant Patients

The CNI Rocky Mountain Cochlear Implant Center saw 270 cochlear implant patients in 2014, ranging in age from infants to seniors:

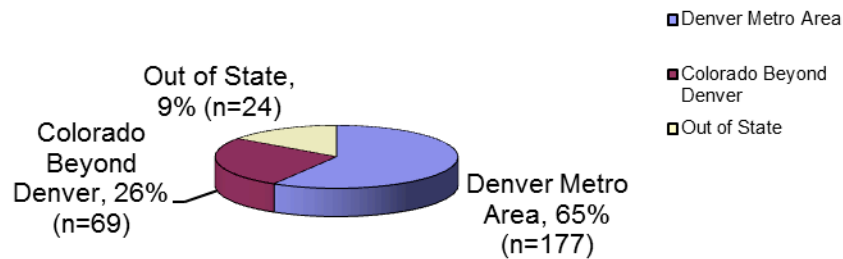
## Age Distribution (CI Patients)



Geographic Distribution - Cochlear Implant Patients

The subset of cochlear implant patients indicates a diverse range, geographically:

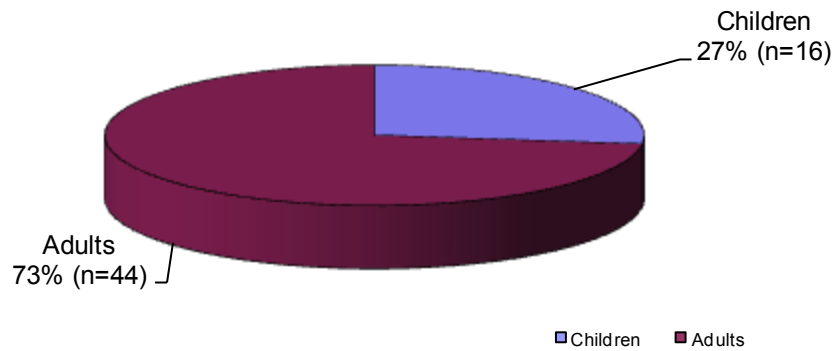
## Geographic Distribution (CI Patients)



### Age Distribution - Cochlear Implant Surgical Patients

The CNI Rocky Mountain Cochlear Implant Center performed a total of 60 cochlear implant surgeries in 2014. The youngest recipient was just over 1 year old and the oldest was just over 90:

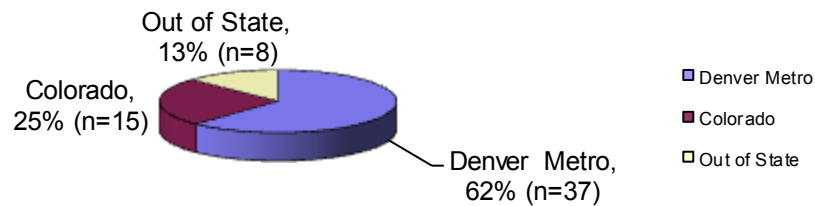
## Age Distribution (CI Surgical Patients)



### Geographic Distribution - Cochlear Implant Surgical Patients

Geographically, the subset of cochlear implant surgical patients indicates a greater percentage from outside of the metro Denver area as compared to all CI patients in 2014:

## Geographic Distribution (CI Surgical Patients)

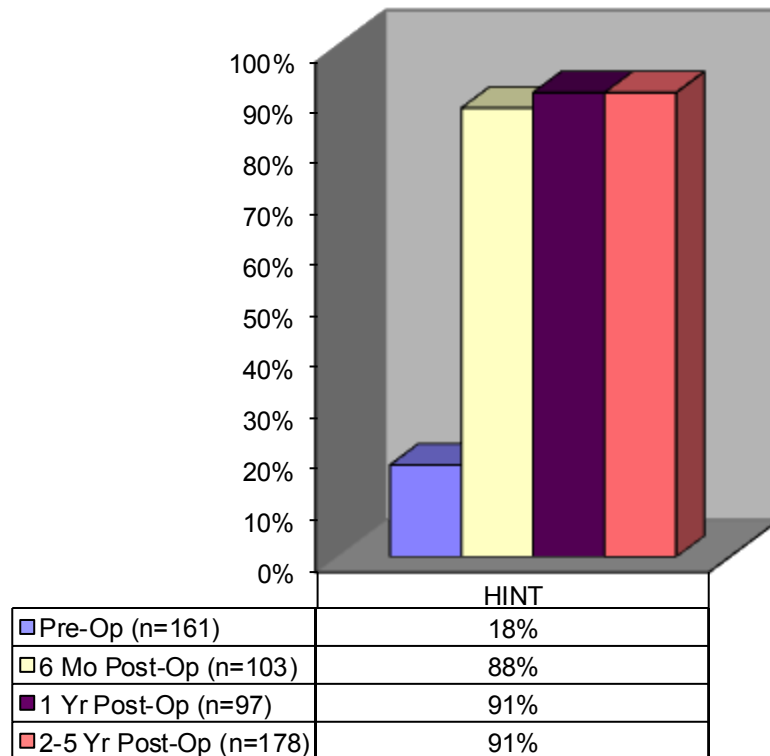


## Clinical Outcomes for Adult Cochlear Implant Patients

Four different test parameters are used to assess adult patient progress following the cochlear implant procedure:

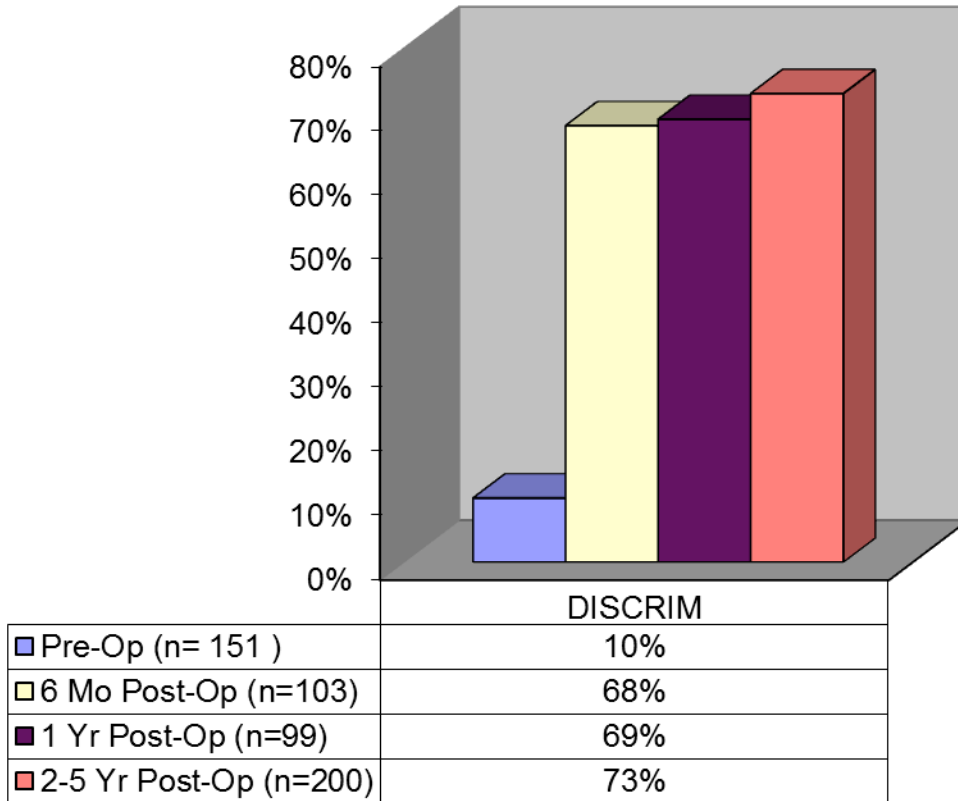
**HINT** = Hearing in Noise Test. Results are percentage of correct responses; a **higher score indicates better hearing**.

### **CI Adults - HINT**

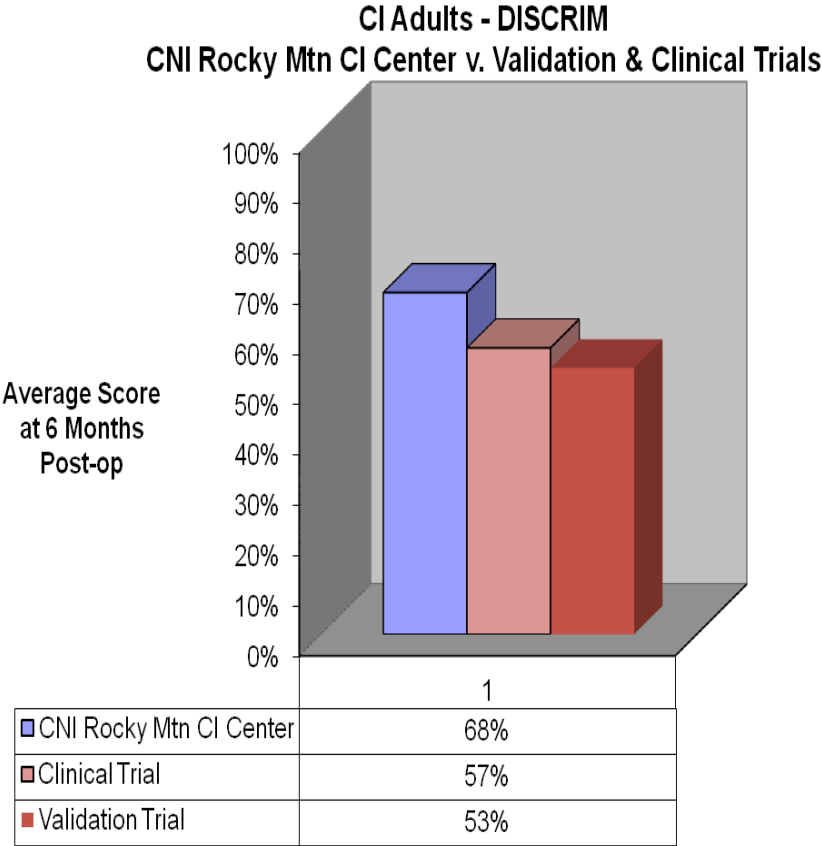


**DISCRIM** = Discrimination is the ability to understand spoken words presented to the patient at a level above their threshold of hearing or at the limits of the test equipment. Results are percentage of correct responses; a **higher score indicates better hearing**.

### CI Adults - DISCRIM

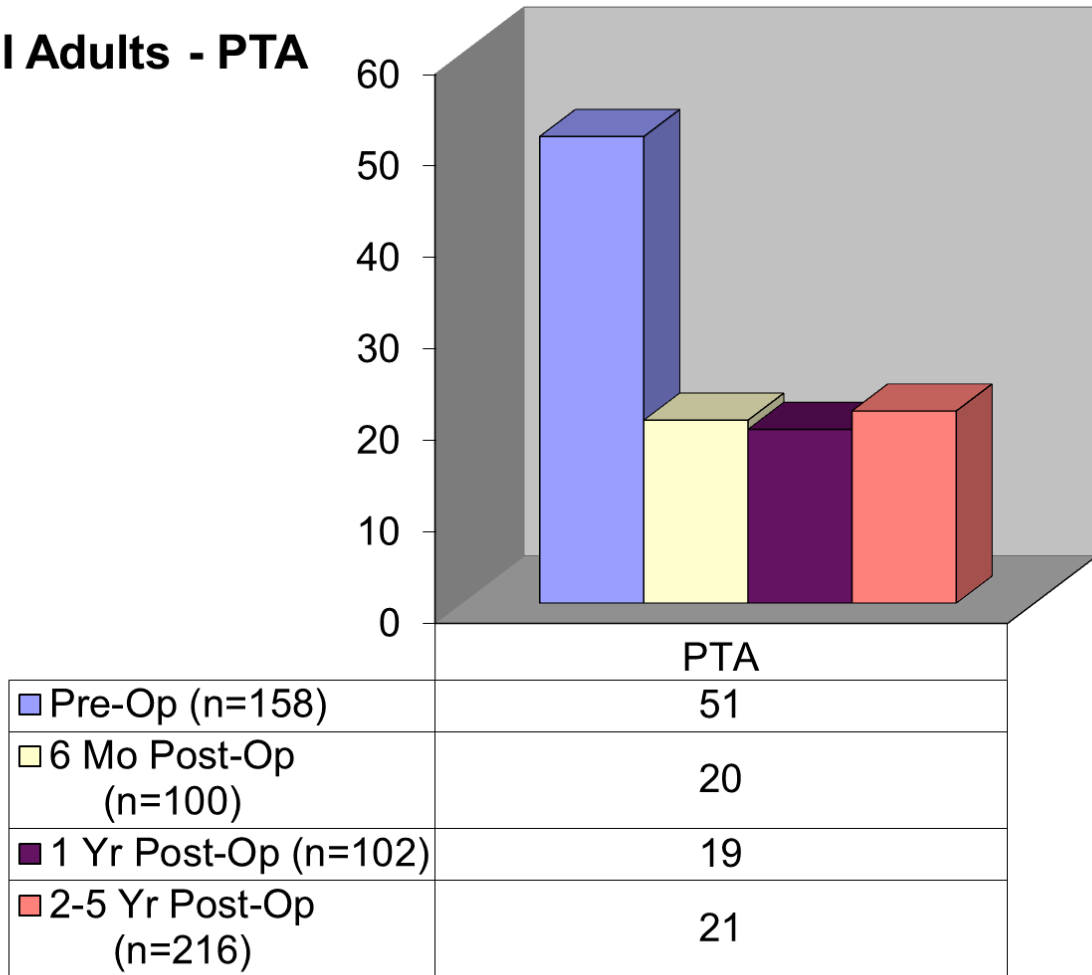


The graph below shows data gathered at 6 months from three different sets of adult CI recipients using the DISCRIM test. Recipients from CNI Rocky Mountain CI Center used a variety of implant models and several types of sound processors. The recipients in the clinical trial were tested exclusively with the Nucleus 24® implant and Nucleus Freedom® sound processor while recipients from the validation trial were tested with the Nucleus Freedom® implant and Nucleus Freedom® sound processor. While these differences preclude an exact comparison of the data, it is clear that the data obtained from the adults of the CNI Rocky Mountain Cochlear Implant Center are clearly within the ballpark of results found in other analyses.



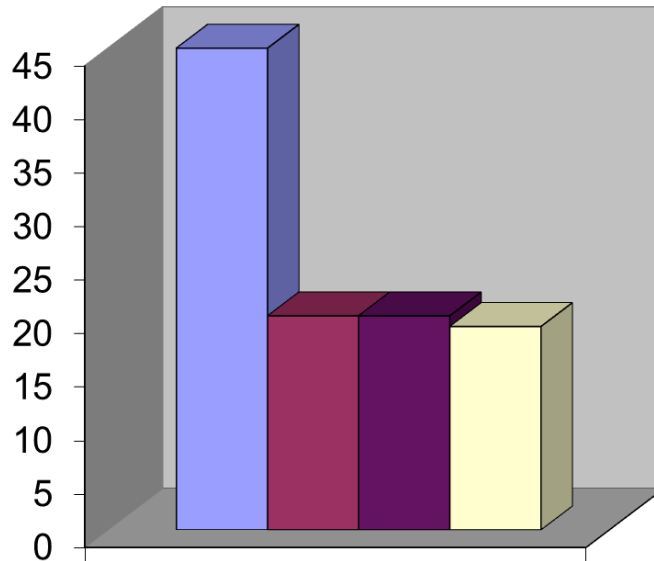
**PTA** = Pure Tone Average is the average threshold of hearing for the three critical speech frequencies of 500, 1000, and 2000Hz. The scale is from 0 (perfect hearing) to 110 (profound hearing loss); a **lower value indicates an improvement in hearing**.

### CI Adults - PTA



**SAT** = Speech Awareness Threshold is the level of sound at which the patient is able to detect spoken words. The scale is from 0 (perfect hearing) to 110 (profound hearing loss); a **lower** value indicates an improvement in hearing.

### CI Adults - SAT

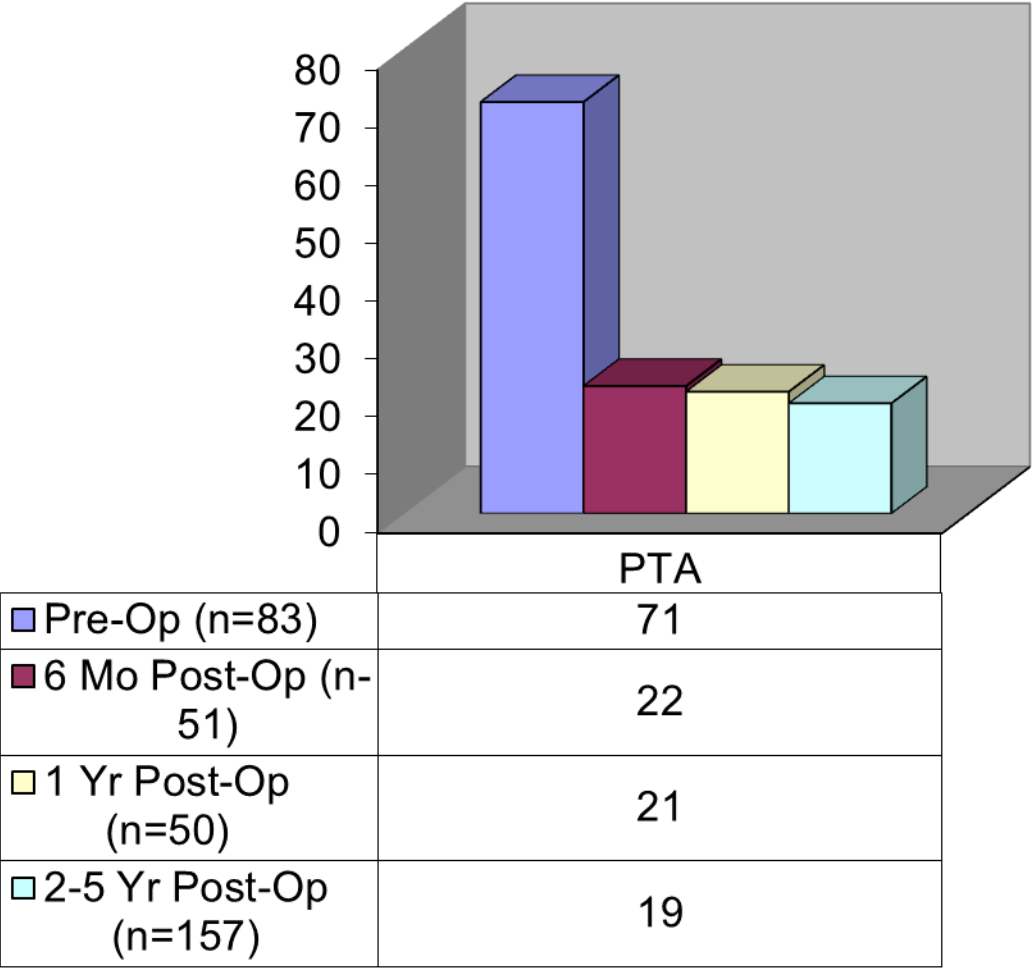


	SAT
■ Pre-Op (n=109)	45
■ 6 Mo Post-Op (n=61)	20
■ 1 Yr Post-Op (n=58)	20
■ 2-5 Yr Post-Op (n=110)	19

Two different test parameters are used to assess pediatric patient progress following the cochlear implant procedure:

**PTA** = Pure Tone Average is the average threshold of hearing for the three critical speech frequencies of 500, 1000, and 2000Hz. The scale is from 0 (perfect hearing) to 110 (profound hearing loss); a **lower value indicates an improvement in hearing**.

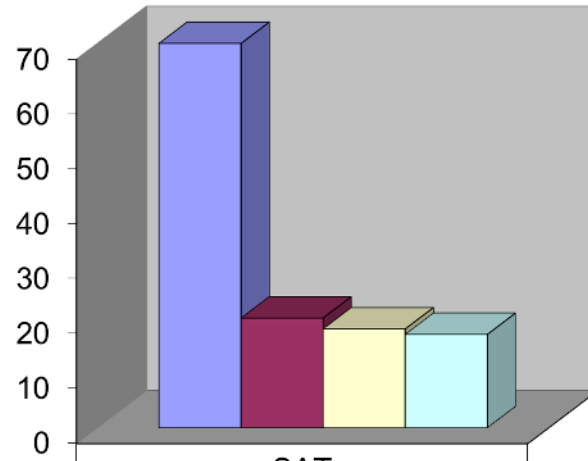
### CI Children - PTA



**SAT** = Speech Awareness Threshold is the level of sound at which the patient is able to detect spoken words. The scale is from 0 (perfect hearing) to 110 (profound hearing loss); a **lower value indicates an improvement in hearing**.



### CI Children - SAT



	SAT
■ Pre-Op (n=74)	70
■ 6 Mo Post-Op (n=40)	20
■ 1 Yr Post-Op (n=34)	18
■ 2+ Yr Post-Op (n=95)	17